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ABSTRACT

Designed to clarify issues related to the definition and implementation of strategic planning, this paper presents an examination of several themes that are central to the practical side of planning and budget development. Introductory material considers the utility of the strategic planning approach and points to three areas of higher education finance with particular relevance to strategic planning: planning methods, cost formulation, and projection. The next section considers the relationship between perceived institutional mission and sources of funding and the impact of this relationship on the determination of management policy. Next, the paper discusses the components of cost analysis that are relevant to planning and operations, using student financial aid and personnel management as examples. The final functions of administration considered relate to projecting future requirements and resources, modeling for the efficient and effective allocation of resources, and using simulations for contingency planning. Examples of organizational stress that can be alleviated through a strategic planning approach are discussed in relation to retrenchment, ensuring access to management information, and budgeting. Concluding comments stress that enhanced access to planning systems, as a component of strategic approaches to management, must be seen as central to a sound institutional response to the economic uncertainty of the current period. (EJV)

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USEFUL ACCESS TO PLANNING SYSTEMS
FOR COMMUNITY COLLEGES

by

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Administrators in higher education are now faced with many economic and environmental stresses which call for basic changes in management methods. For over a decade the idea of strategic planning has been offered as the most promising approach to administration. The automation of management information systems, and introduction of mini- and microcomputers of offices and laboratories have encouraged the hope of this administrative style. But difficulties in defining and implementing strategic planning have impeded its adoption in many institutions, and reduced its effectiveness in others.

Naturally, administrators demand that the planning systems be useful to them and to their institutions. In the context of policy and budgeting approaches adopted before the early 1970's the utility of strategic planning is masked. The earlier approaches were essentially short-range in operation, dealing with the issues of a single year at a time. Policy based on data which moved more slowly through administrative channels, and was not subjected to exhaustive analysis, would not recognize benefits with projected impact more than three years off.

The integration of strategic planning into overall management of a college or university requires some fundamental policy basis. Most institutions share a number of points, largely related to finance policy, upon which strategic planning should be based. This paper deals with three related areas of higher education finance: planning methods, cost formulation, and projection (including modeling and simulation). It is not an exhaustive review of the many variations and philosophies which have grown up in

these areas, but an examination of several central themes to the practical side of planning and budget development. This yields some indication of the demands which may confront managers and administrators, and the responses they might develop through the 1980's.

Planning, cost formulation, and projection are three important financial exercises; they each center on the mathematical articulation of data. This necessarily implies the adoption of formulae which reflect the administrator's idea of effective and efficient response to the needs of the institution. The historical application of various combinations of methods has described the widest range of financial policies.

There is an equally wide range of possible institutional requirements. It would be impossible to offer a universal methodology for financial analyses. It is useful, though, to consider the ways institutions might better combine the alternative planning, costing, and projecting approaches to the solution of short- and long-term problems, and the effective and efficient management of resources. This overall consideration of sources and uses of funds leads to the concept of useful access to appropriate systems for data collection, analysis, and application. Automated data processing systems now supply an unlimited choice of formulations and calculations. The true limitations to sound management lie in the selection of inappropriate statistical treatments.

The integration of management systems to accomodate strategic planning depends on many decisionmakers having useful access to

information systems in carrying out their planning, costing, and projecting functions. First, in regard to planning, the relationship between perceived institutional mission and sources of funds has an undisputed place in the determination of policy. The connection between public funding and educational mission is significant for the community college and state university systems, for example.

Second, cost analysis is practiced in multivarious forms, depending on the purposes and philosophy of the administrator or manager involved. A sensitivity to the need for selecting appropriate formulae and interpretations of data has developed. This need begins with the basic definitions of cost terms, and extends through the use of calculations in the planning and budgeting of operations. Certain formulae useful to a given situation may distort data analyzed for another situation.

Finally, projection and simulation, or modeling, as advanced planning tools, play an increasing role in the success or failure of an institutional plan. The applications of such analyses have dramatic effects on departmental and other sub-unit budgets. Projections are vulnerable to the same abuses as are the many facets of cost analysis. Relevance and accuracy are essential to any useful projection or simulation, but these are difficult qualities to assure absolutely. Clearly the use of appropriate modeling is centrally involved in current administrative success.

Strategic planning, then, means the coordination of planning, cost analysis, and projection. Administrators and managers must have access to meaningful materials and systems for the develop-

ment and articulation of their data. The efficient implementation of policies, and financial health of an institution result from such coordination and access.

Institutional Mission Determinants

With respect to planning, the rubric of management by objectives persists. The problems inherent to the translation of overall goals into measurable objectives also survives. One notable difficulty is found in that perceived institutional mission varies dramatically across the spectrum of higher education. Goals, and particularly objectives, are also affected by time, as educational institutions are necessarily participants in economic market systems which respond to business cycles.

While the perceived institutional mission of any college or university is a matter of policy, and structures the activities of all of the organs of the institution, the way in which this mission is expressed may enhance or impede planning processes. To close the gap between broad goals and concrete objectives, it has been suggested that institutional mission be expressed, or described, according to the activities in which the institution is engaged [2., pg. 193]. When "constituencies" have been identified (ie. legislators, voters, faculty, board members) and activity statements formulated, then the perceived importance of each activity may be ranked. Further, the level of constituent support may be derived, to help in fixing priorities [2. p. 197].

In practical terms, this approach is said to remove the planning process from the realm of philosophy, and bring relevance to decisions regarding institutional mission. The conclusion is

that

"... the concept of activity-driven missions offers a productive and interesting alternative to the heirarchical objectives/goals model that currently dominates most research on institutional mission." [2, p. 203].

The emphasis on productivity is in accord with conservative management philosophy, and introduces an aspect of measurability to this basic planning function.

In ranking proposals, in prioritizing for instituional renewal, that administration might wish to adopt either the heirarchical objectives/goals model, or the activity-based model. But that decision should be based on a determination that the approach is preferable for some reason. Such a rationale might originate in the historical ties of the institution. It might arise from bands of economic and legal dependence; from philosophical or political affiliation. The criterion for effective mission determination and expression is its coordination with efficient budgeting processes and personnel.

Institutions which enjoy the support of private endowments or other resources which endure through long-term planning may determine that economies derived from planning by activity statements are either insignificant, or are outweighed by some drawback to the approach. However, in public institutions government funding cycles, and economic policies, have a special influence. The adoption of activity-driven mission statements at the community college level has met with success of a measurable kind [2, pp. 197-205].

Successful administration, according to one recent study, is

the "result of articulating unique institutional values and maintaining them effectively in the self-conscious decisions of administration" [8, p. 273]. In that study, involving "successful small colleges", the concept of entrepreneurship is noted as an indicator for administrative effectiveness. Extending the observation concerning activity based mission determination, seven characteristics are listed as significant.

In addition to activity related mission were mentioned the following: opportunity consciousness, innovation and creativity, intuition, administration through people, effectiveness versus efficiency, and well-run operations [8, pp. 273-277]. Again, the challenge is to graft these standards to ongoing procedures, and to academic cycles. The administrative approach adopted in the small colleges studied was one concentrating on "task-doers", following the popular "theory Z", and treating tasks largely as interchangeable [8, p. 279].

In higher education institutions, the adoption of pragmatic planning, placing emphasis on creativity, reflected a successful, liberal approach to administration. Not all institutions would necessarily benefit from such a policy, and its adoption would depend on some demonstration of a tangible benefit to be achieved. But the system does illustrate one of a number of administrative responses to needed change which a given institution might adopt. In an environment of economic uncertainty, most institutions will require a repertoire of planning systems which will be appropriate to a number of emerging trends.

The community college study, and the small college study,

mentioned previously, illustrate the need for flexibility in adopting a planning method. Further considerations involved for the institution include recognition of the limitations of any planning approach, and an appreciation of the costs associated with the planning activities themselves. The determination of institutional mission, and the administration of operations, require that planning be rational [1, p.51].

It has been suggested that the planning processes which lead to budget decisionmaking are inherently structured by certain organizational constructs which have been consistently associated with planning problems. Five of these include: goals, participation, information and communication, interdependence, and resources. Traced through the three-stage planning process (initiation, development, implementation) these constructs form a frame upon which to gauge planning needs [1, pp. 37-38].

In the arrangement of these five factors as problem areas, one sees the inherent limitations of any planning process. At the heart of these is the matter of information and communication. Useful access to planning systems depends on this "reconciliation" feature, which permits communication among component systems.

"Unless relevant, valid information from the units to be involved in planning is available in an acceptable form, or can be generated at a reasonable cost, the institution's ability to engage in planning is severely limited" [1, p.45].

It is clear that "choosing an appropriate level and scope for planning may be the most important decision planners make" [1, p. 51].

Having considered the formulation of goals, and their as-

sociation with the people involved in their achievement, and the likely subjects for planning problems, a final observation can be made. The role of practical management in relating a given plan to a budget should be examined. there are four areas of practical management to be recognized: administrative, business, fiscal, and financial accounting and reporting. From each of these areas is drawn critical data, needed for planning and projection. And to each of these areas is directed a body of policy and resources, the results of the planning process.

Under the administrative management heading is found the institutional planning function. Space, personnel, information, and legal functions are also included here. With useful access to a central planning resource, educational productivity should be naturally enhanced. Unfortunately, until the present time

"the use of management information systems for strategic or planning purposes has not been as widespread as for operational or control purposes. Reasons for this include (1) the need to have effective operational and control systems, (2) the relative unfamiliarity (until recently) of senior institutional officers with computerized information systems, (3) the flexibility such systems must have to anticipate the wide range of possible questions and types of data that may be required to support strategic or planning information systems, and (4) the difficulty of establishing data commonality and processing linkage among separate application systems." [5, p. 38]

The utilization of presently available technology seems to thus hinge on the assignment of a high priority to this reconciliation requirement; planning for the standardization of application systems, and the training of their users.

The analyses of costs, for planning and operation, emanate from fiscal management offices. The degree to which the administra-

tive and fiscal management areas are "integrated" will determine what use is made of planning resources by fiscal managers, and vice versa. Larger institutions would have a corresponding fragmentation of these information resources; fiscal and administrative personnel would be relatively more isolated. At this point the accounting and reporting functions become critical.

One might ask whether the larger, leading research universities would be capable of adopting the activity-driven mission definition approach, or an entrepreneurial management policy. This is to ask whether there is a demonstrable positive relationship between a given procedure and educational effectiveness in terms of cost, compared to given alternatives [1, p.51]. (One of which, logically, would be not to plan.)

Major Cost Factors

Cost analysis meets planning at the point of planning costs. Cost analysis is, like strategic management information use, not yet uniformly practiced. Nor are there standard procedures established. L. Richard Meeth (1975) observes that "[t]here are many problems with cost analysis which remain to be solved by those willing to attempt it. It is by no means a clearly understood or even uniformly practiced activity in higher education management" [4, p. 127].

"The act of performing cost analysis involves the examination and evaluation of costs and related statistical information in order to determine the implications of past, present, and future actions." [5, p. 361]

The differences noted above, small versus large institutions, liberal arts colleges versus technical schools, impose limits on the

value and range of comparisons. Yet resources are frequently in the control of governmental or other institutional bodies which impose formula funding parameters on the administrators of higher education [5, p. 365].

A full review of cost information uses, and of cost analysis, is well beyond the scope of this paper. But the subject of useful access to planning systems involves certain cost analysis components relevant to planning, and to operations. The limited consideration of certain major cost factors, and the procedures which may be selected to evaluate them, will serve to show the relationship between planning, cost analysis, and projection, in terms of useful access. For this purpose the two areas of student aid and personnel management are appropriate.

Cost analysis relating to student aid introduces the dimension of "sources of funds". Further, with regard to the concept of productivity, tuition level has a recognized impact on enrollment [10, p. 38]. The determination of institutional size, or the demand for its output, through tuition policy, partakes of planning from cost information, and also from models or projections (beyond cost analysis). In times of economic uncertainty the student aid and tuition policies which institutions adopt must be effective and efficient.

"To the student, tuition is the most visible indicator of price." [10, p. 34] Certainly institutions use various means, and have various motives, for their tuition and related decisions. To a very great extent, these rely on the products of accounting and reporting offices, where the reconciliation function is available. More closely related to budgeting, the matters of

tuition policy, and student aid resources, reach even to the office of development.

As "revenues", student payments from tuition and other sources, receive different analysis than do cost subjects. The policies evolved, in the past, from rather mechanical administrative wisdom. To the degree that educational institutions resembled private business organizations, the principles of business management were consulted, particularly with regard to the matter of pricing. In public institutions likewise, the formula funding which had been applied to other institutional requirements (military, exploratory, proprietary) was extended to the education budgets.

The implication of tuition and student aid policy is in their effect on (1) the demand for an institutions programs and services, and (2) resource requirements for operations and capital programs. In times of economic uncertainty the planning function benefits from reconciled data and analysis on the subject of revenues and their relation to the costs of services, established for other institutional planning.

Regarding personnel administration, it has been recently noted that "some institutions are developing participatory management programs that promote discussion of preliminary plans for change..." [3, p.10]. This indicates a need for access to planning systems for the participants. It also points to a requirement for reconciliation between different sets of data to insure the validity of analyses. Three main reasons for reconciliation of data arise when elements of the accounting process make use of:

- "1. Costs appearing in different form from tha contained in the financial accounting system.
2. Costs unavailable in the financial accounting system.
3. Statistical data available elsewhere in the institution or from other sources." [5, p. 355]

This is practically the same interpretive function which was mentioned above [p. 7] as "standardization". And it should be noted that the requirements extend beyond the institution itself in the second and third categories. Apparently one of the needs of strategic management, relating to usefull access to planning systems, calls for a reconciliation function in the institutional accounting and data management areas.

Since higher education is a labor-intensive industry, and personnel cost information is central to college and university program and budget planning, it should receive priority in the planning process. Fortunately certain mileposts have been adopted to structure its analysis. First, the overhead ratio, comparing faculty payroll figures with other overhead. This yields a ratio which is more directly related to institutional management than to institutional size [4, pp. 29-30]. Second, personnel cost data is articulated to appraise faculty productivity. This treatment is more directly related to institutional size than to management [4, p.28]. It is also a more useful from a planning standpoint. The only difficulty arises when comparing curricular personnel costs and non-instructional ones.

The reconciliation function in personnel costing is found in the practice of position analysis. The evaluation of data relating to positions directly effects planning and budgeting in all other areas [3, p. 46]. Cost information derived from position analysis

has long been recognized for its planning value, with methods and techniques described in the literature since 1972 [3, p. 46]. The many uses of personnel data in institutional planning and research have reached a high level of development [3, pp. 6-8].

The implication of this is in the direction of support which practical experience in personnel data analysis and reconciliation may lend to the growth of strategic planning. Useful access to personnel studies, and to the processes for their evaluation, will often be the first step in creating and advancing an institutional plan.

Strategic institutional planning, or comprehensive planning, finds at its base the three requirements related to these major cost factors: (1) access to data and analyses relating to human resources, (2) access to data and analyses relating to tuition, student aid and other revenue components, and (3) extended reconciliation of information management resources and procedures, from reporting and accounting levels to policy decisionmakers.

At this point the challenge of strategic (integrated) planning is revealed. Primarily, the need for an effective and efficient response to the economic and market demands of the next five years is pressing. Virtually all authorities agree on the subject of long range planning and practical implementation of policies. Yet strategic or integrated planning systems have not been widely applied or developed, even though "[v]irtually every issue of the Chronicle of Higher Education since 1981 has contained news of financial cutbacks and retrenchment at colleges and universities, small and large, public and private, east, west, and mid-

west." [12, p. 389]

Projecting, Modeling and Simulation

There is an identifiable range of demands which will be placed on the planning process. The core of the process, and its key procedures, are essentially statistical, and they impose their own limitations when appropriately applied. The danger of inappropriate articulations of data, or erroneous interpretation of planning studies and reports, though long recognized, is only amplified by the extension and integration of planning procedures. One must recall that in addition to reconciliation of data, the control and management of access and use (including input, revision, deletion, selection) are sensitive problem areas with serious security implications.

While security costs have an impact on planning costs and procedures, the actual indicator of productivity (effectiveness) of planning is its ability to report accurately, and predict, the needs of the institution, articulating methods for determining resource allocation in accordance with institutional policies and principles of management.

Projecting future requirements and resources, modeling for the efficient and effective allocation of resources, and simulation in statistical expressions with contingency planning value, are fundamental functions of administration. Strategic or integrated planning imposes great demands in this area upon those generating data and reports, and those who design and perform the analyses and studies across a wide range on institutional units.

Perhaps the most widely acknowledged environmental stress for

higher education is the fluctuation in demand for services. Agreement as to the details of the fluctuations ends at the observation that "thanks have changed". The composition of student body, the demands for research, the standards and requirements for faculty, the sources of revenues and conditions attached to research have all "fluctuated". And as a response to these stresses, retrenchment, or the reduction and/or restructuring of programs and operations, has emerged.

With no corresponding function outside the field of education, retrenchment imposes unique demands on institutional planning, and on accounting and budgeting processes. There are as many retrenchment plans as there are organizations faced with the need for such reorganization. A review of the range of such responses would be of interest in developing an overview of general conclusions on organizational responses. Certainly an examination of the plans would reveal the utility of a strategic approach, supported by an integrated management information system.

One example of retrenchment is found in the case of the State University of New York at Albany which faced difficulties in the early 1970's. After the evolution of various response patterns, with varying degrees of success, a strategic planning model was developed and implemented to effect a reorganization of the campus within practical management standards. The approach can be described as the "development of a system of planning and evaluation...[which] reinforces the interconnections between programmatic, budgetary, and other resource decisions." [12, p. 400]

There it was concluded that "many campuses face the need to develop such systems in the 1980's" for projection, modeling, and simulation of processes, and of institutional responses to environmental conditions.

"Universities can be usefully regarded for many purposes as producing units and, as such, knowledge of the technical relations between their inputs and outputs is of paramount importance for planning the higher education system." [12, p. 227]

Recent literature suggests that "it is convenient to think in terms of two main classes of problems which confront planners of the higher education sector, although in reality they are inter-related." [12, p. 228] These include, first, the choice of quantity, quality, and mix of outputs; second, the least-cost method of producing a given set of outputs.

Useful access to management information systems for the purpose of strategic analysis, as well as merely accumulating and editing data, is a key to strategic planning. "Unit cost analysis, space utilization studies, simple projection models, and other similar techniques have been in use...for several decades." [7, p. 21] These traditional analyses, anchored in the processes of the educational systems in place, have applicability in both the PPBS and accounting-based budget and management techniques. Even very simple, linear programming operations, used in the budgetary development and reporting process could be greatly improved by linkage with other automated procedures for the purpose of comparing and sharing data. [11, p. 237]

The relationship between costs and scale, for example, is a recurring theme in budgetary analysis which might readily be

enhanced by the availability of centralized database access. The access to such analyses, if offered to lower level budget developers would likely result in more comprehensive and more insightful reports, or presentations of alternatives.

Under present analytical assumptions, and using traditional, response or reaction planning approaches, less valuable (useful) information is presented. For example, the run of readily available, standard indexes are presently the most useful, and the most accurate basic inputs, whether as constants, or as variables in modeling and simulation. The relationship of these indexes in the present state of planning arts might be as follows: Higher Education Price Index compared with Research and Development Price Index for the period 1973 to 1983 [9, p. 2]. In terms of the rate of increase, it is noted that these rose about one point per year from 1978 to 1981, then began to flag, until in 1983 it returned to the 1977 rate of growth. No corresponding reduction in the reported subindexes of contracted services used for the HEPI and R&DPI is noted in the years 1981-1983 [9, p.4]. The degree to which this evidence indicates the presence of institutional or economic stress is essentially a post-facto study. If these trends had been strategically anticipated, by model or simulation, and planning engaged in, perhaps resultant stress could have been reduced, and program quality enhanced.

A second example of stress which might be alleviated by strategic approaches is reflected in the rubric of formula funding of public education systems. In the Florida Community College System it can be seen that "Florida is committed at all levels

to cost-driven formulas, and can be expected to continue this basic approach to budgeting." [7, p. 26] An alternative approach, which would accomodate strategic planning to some degree was preferred by the Division of Community Colleges, but rejected by the legislature. It would take into account fixed, variable and semivariable cost [7, p. 26]. Clearly these flexible analytical tools, having roots in the budgeting process, are valuable in planning, but are not acceptable politically.

These two simple illustrations of barriers to planning flexibility point to problem areas like those described by Bean and Kuh [1]. Strategic planning theory, on the other hand, places a premium on flexibility in adopting management policy, but the integration of planning processes with data resources is essential to the practice, and such integration has not yet been achieved, for whatever reasons. Few planners would argue that strategic planning supported by integrated management information systems, through the continued use of models, projections, and simulations, could reduce the economic stresses within institutions and systems by providing contingency plans for use when indicated through monitoring of trends, and through the tailoring of such plans "on file" to present implementation requirements.

Conclusions

Useful access to planning systems implies the integration of database and analytical resources through the planning, budgeting, and reporting functions of institutional management. The objective of strategic planning, or effective and efficient maximization of educational productivity is reflected in the recent

interest on the part of institutions and management authorities in development of improved management information systems, and the enhancement of institutional planning. New approaches to the use of micro- and mini-computers, now common in most institutions, include "distributive database" utilization, which makes centralized data resources available to many interactive component stations or managers. Barriers to the development of such centralized, interactive systems include the recency of development of hardware suited to high speed, synchronized database utilization by great numbers of dispersed stations. Perhaps educational management will follow industrial management in adopting this high-tech approach to useful access problems.

The failure of most institutions to adopt and implement strategic planning relates to cost factors, to this recency of computer resource development, and the difficulty of reconciliation of existing data in such diverse forms. Other problems arise which relate to management and control of access to sensitive material; another policy consideration quite apart from planning utility. But enhanced access to planning systems, as a component of strategic approaches to management, must be seen as central to a sound institutional response to the economic uncertainty of the later 1980's and beyond.

REFERENCES

1. Bean, J. P. & Kuh, G. D. (1984). A typology of planning problems. Journal of Higher Education, 55(1), 35-55.
2. Doucette, D. S., Richardson, R. C. & Fenske, R. H. (1985). Defining institutional mission. Journal of Higher Education, 56(2), 189-205.
3. Fortunato, R. T. & Waddell, D. G. (1981). Personnel Administration in Higher Education. San Francisco: Jossey-Bass.
4. Meeth, L. R. (1975). Quality Education for Less Money. San Francisco: Jossey-Bass.
5. National Association of College and University Business Officers (1982). College and University Business Administration. Washington D. C.: NACUBO.
6. Miller, J. L. (1983). Strategic planning as pragmatic adaptation. Planning for Higher Education, 12(1), 41-50.
7. National Center for Higher Education Management Systems (1979). Cost Information and Formula Funding: New Approaches. Boulder, CO: NCHEMS.
8. Peck, R. D. (1984). Entrepreneurship as a significant factor in higher education. Journal of Higher Education, 55(2), 269-285.
9. Research Associates of Washington (1983). Higher education price indexes: 1983 update. Higher Education Price Indexes.
10. Stampen, J. (1980) The Financing of Higher Education: Low Tuition, Student Aid, and the Federal Government. Washington D. C.: AAHE.
11. Verry, D. & Davies, B. (1976). University Costs and Outputs. New York, Elsievier.
12. Volkwein, J. F. (1984). Responding to financial retrenchment - lessons from the Albany experience. Journal of Higher Education, 55(3), 389-401.